CHILTON'S

IRON AGE METALS PRODUCER

January 16, 1984

INTERNATIONAL EDITION

GALVANIZED STEEL: DETROIT GETS AN EARFUL FROM PITTSBURGH

IN PLANT SPOTLIGHT: J&L'S NEW CASTER

THE HOT SPOT: MERGERS IN STEEL

Plus

WORLD METALPRODUCING/ MANUFACTURING OUTLOOK: A COUNTRY BY COUNTRY ANALYSIS

JANUARY 16, 1984 VOL. 227, NO. 2

IRON AGE METALS PRODUCER

Photo by James W. Conroy

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IRON AGE (ISSN 0164-5137) is published 24 times a year by CHILTON COMPANY, Chilton Way, Radnor, PA 19089. Chilton Co. is a division of American Broadcasting Companies, Inc., New York, N.Y. Second Class Postage Paid at Wayne, PA 19087 and additional mailing offices. IRON AGE is sent on a controlled free basis to qualified managers in U.S. metalworking companies. Non-metalworking companies, services, government, institutions, schools and colleges, $42 one year. Canada, $42 year. Foreign, $49 one year. Single copies, $2.50. Cable Chilton Philadelphia.
Send address changes to IRON AGE, P.O. Box 1440, Riverton, N.J. 08077.

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COMPUTER COURSES ADVANCE CAREERS

More executives concur that computer courses are vital in helping them climb the corporate ladder.

This was contained in the 13th annual survey of management succession, conducted by professors from the University of Michigan's Graduate School of Business Administration.

Their report, "The Newly Promoted Executive: A Study in Corporate Leadership" showed that computer education has risen from seventh place in 1980-81 survey to fourth place in the most recent survey.

However, this year's survey, which polled 1,459 newly promoted executives, showed little shifts from survey results of 1982 in terms of which routes are best to follow if you hope to succeed in business.

For instance, the areas of general management/administration and marketing/sales continue to be the fastest routes to the top.

And as last year, a majority of new executives reported that *personal challenge* spurred their ascent, and also mentioned such influences as normal career advancement, importance of the job, monetary considerations, prestige and recognition.

Again, the 1983 poll showed that a high percent of promotions where internal. And, although most were among males, distaffers continue to join the higher corporate ranks.

Corporate business leadership continues to be financially rewarding.

As proof, major promotions earned executives an average salary increase of 20 pct in the 1982-83 period, bringing the median to a new high of $120,039.

Last year the average increase stood at 16.7 pct. The maximum base salary reported in this latest poll was $500,000.

As indicated in last year's survey, most executives rise through the ranks of finance and accounting,marketing and sales, production and operations, with most (57.8 pct) grouped in general management.

Finally, most respondents are holding to their views that drive and ambition motivate business success, while fortuitous circumstances took a backseat compared to education and abilities in determining who went how far.

Body language can be louder than words

"Up to 80 pct of our communication is nonverbal," asserted anthropologist Edwin Hall, author of "Beyond Culture."

As reported in the December, 1983 issue of *Bechtel News*, Dr. Hall along with Harvard University psychologist Dr. Daniel Coleman and Dr. Dane Archer, a University of California/Santa Cruz sociologist, have stressed the importance of body language and agree that most people possess strong interpretive powers.

In the same report, behaviorial consultant Maxine Fiel has outlined some general elements of the body's silent vocabulary.

For instance, take hands.

Placed on the hips they may convey a provocative or tough position, but placed on the desk they should mean business. If they're jammed in the pockets they might be interpreted as meaning detachment or withdrawal.

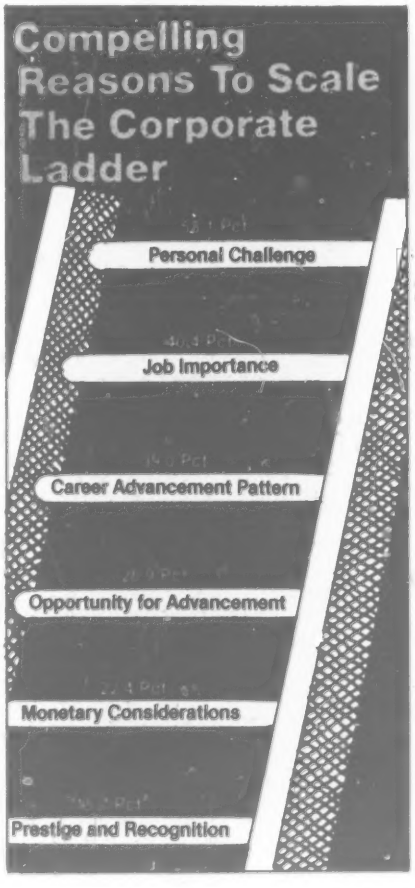
Crossing gestures, of hands and legs, may mean closing another out, either emotionally or intellectually.

"*Eyes* seldom lie—in fact, some lie detector devices operate on the basis of eye movement and pupil dilation," the report continued.

Also, Dr. Coleman believes that eye movements can reveal sentiments and eye contact indicates self-assurance and security; lack of it may suggest timidity or dishonesty.

Finally, Ms. Fiel is reported as noting that body mannerisms, *silent dialogue*, can fill the gap when there is a lack of verbal expression.

Computer education has risen from seventh place . . . to fourth place in the most recent survey.



BY PATRICIA AIMAN

DURABLE ORDERS GIVE MIXED SIGNALS

Mixed signals about the strength of the economy emerged from November's durable goods orders report.

A big jump in orders for military goods helped push total orders up 2.2 pct, but military purchases are volatile from month-to-month and cannot be counted on for growth continuity.

Orders for nondefense capital goods—an indicator of the trend of business spending—dropped 4.9 pct during November from October.

Overall orders received in the eleventh month came to $96.7 billion, exceeding October's $93.6 billion by 3.2 pct. The November total was substantially better than the 1982 figure of $70.5 billion.

The increase in manufacturers new orders resulted mostly from gains in the durable goods sector. New orders for transportation equipment increased by $3.7 billion, or 17.3 pct, to $24.9 billion, with much of the increase reflecting large defense orders.

New orders for machinery dropped 6.0 pct, the first major decline since last January.

There was no change in the overall total of new orders for metalworking machinery, but there were dramatic drops in the individual categories.

The 2.6 pct increase in manufactured goods shipments was almost all attributable to the durable goods industries. Every major industry except instruments show significant gains.

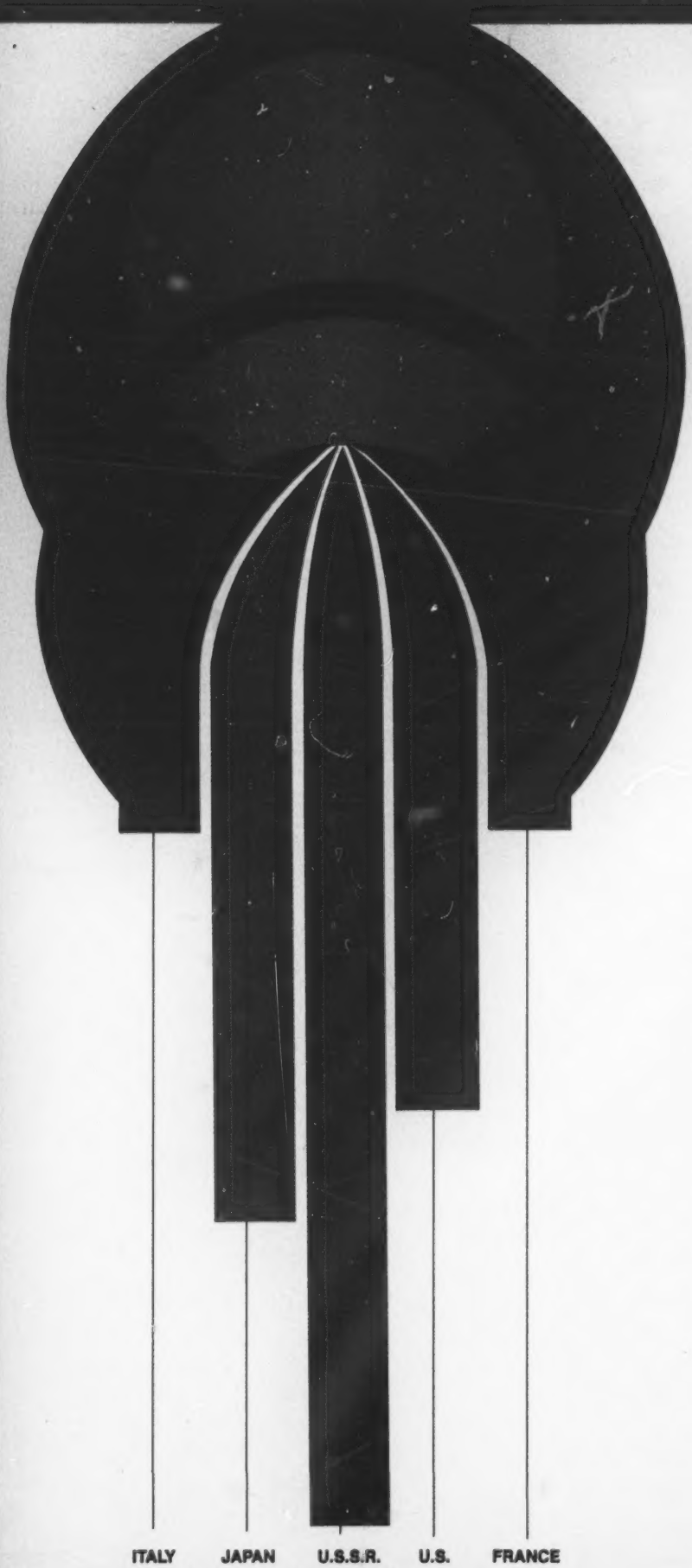
Factory inventories showed no significant change in November. This indicates that manufacturers are striving to control costs by keeping inventories low. The inventory to shipments ratio was set at 1.44, less than the 1.48 figure logged in October.

Economists called the drop in nonmilitary capital goods orders "disappointing," but said a one-month decline was not particularly worrisome.

Overall, analysts will continue to watch capital goods orders as an indicator of the current expansion.

Billions of Dollars, Seasonally Adjusted Monthly Total, unless otherwise noted Source: U.S. Dept. of Commerce		Latest Month or Qtr.	Previous Month or Qtr.	Same Period Year Ago
CAPITAL EXPENDITURES (Annual Rates)				
U.S. Industry, Total	3rd Qtr.	$313.0	$293.4	$313.7
Manufacturing, Total	3rd Qtr.	117.4	108.7	118.2
Manufacturing, Durable Goods	3rd Qtr.	53.0	48.4	56.6
Mining Industry	3rd Qtr.	13.2	10.9	14.5
KEY INDICATORS, Durable Goods Manufacturing				
New Orders	Nov.	96.7	93.6	70.5
Shipments	Nov.	92.4	88.2	72.6
Inventories	Nov.	171.0	170.6	179.4
Unfilled Orders	Nov.	321.4	317.1	281.8
NEW ORDERS, METALWORKING				
Capital Goods Producers, Nondefense Industries	Nov.	24.7	26.0	20.2
Capital Goods Producers, Defense Industries	Nov.	7.9	5.5	4.8
Primary Metals, Total	Nov.	11.7	10.9	7.4
Steel (SIC 331)	Nov.	4.5	4.7	3.0
Iron & Steel Castings (SIC 332)	Nov.	1.3	1.2	0.7
Nonferrous Metals	Nov.	5.9	5.0	3.7
Nonelectrical Mach.-Equip. Industries, Total	Nov.	16.1	17.5	12.9
Engines & Turbines	Nov.	1.2	1.4	0.9
Farm Machinery & Equipment (Shipments)	Nov.	1.1	1.0	1.0
Construction, Mining & Mat. Hdlg. Equip.	Nov.	2.7	2.5	2.4
General Industrial Machinery	Nov.	1.2	1.5	1.0
Fluid Power Equipment** (Index-1972=100)	Nov.	289.0	274.0	158.0
Metalworking Machinery	Nov.	0.7	0.7	0.5
Machine Tools, Total ($ Mill., Unadjusted)***	Nov.	160.2	202.5	88.2
Machine Tools, Metalcutting***	Nov.	115.3	129.4	62.7
Machine Tools, Metalforming***	Nov.	44.9	73.1	25.4
Electrical Mach. & Equip. Industries, Total	Nov.	14.5	15.0	12.0
Elec. Transmission Equip. Ind. Apparatus	Nov.	1.8	1.8	1.8
Household Appliances	Nov.	1.3	1.2	1.0
Communication Equipment	Nov.	4.7	4.5	4.1
Transportation Equip. Industrial, Total	Nov.	24.8	21.1	14.4
Motor Vehicles & Parts (Shipments)	Nov.	14.3	12.9	8.0
Aircraft, Missiles & Parts	Nov.	7.7	6.8	5.1
Shipbuilding & Military Tanks	Nov.	1.8	0.3	0.8
Fabricated Metal Products, Total	Nov.	11.0	10.5	8.3
Instruments, Total	Nov.	4.2	4.2	3.7

*Est.—Commerce Dept.; **Source: National Fluid Power Assn.; ***Source: NMTBA



A COUNTRY-

United States

The U.S. steelmaking industry has suffered through two disastrous years that have brought changes to the industry. It will never return to the old ways because none of the old customs, practices and precepts are intact today.

During 1982 and 1983, domestic shipments averaged less than 65 million tons per year. During the seventies, the industry averaged 94 million tons per year!

Translated into dollar costs, the steel makers lost an estimated $5 billion during the two-year period. The industry responded with mergers and plant closings,and the increased use of imported steel by domestic producers. In effect, the industry contracted. Since 1977, 25 million tons of integrated steelmaking capacity has been shut down.

The market opened up for the developing and developed nations which sent its surplus steel to the U.S. markets. In September 1983, the tonnage from the developing nations alone almost equaled the combined tonnage of European and Japanese shipments to the U.S.

In the current economic cycle, the steel market is at a level about 20 million tons below the levels of past cycles. In the 1975 recession, domestic mills shipped 80 million tons. But in the 1982 recession, they shipped only 61 million tons.

Analysts view this as an erosion of the U.S. market, though some insist that the situation is unique.

With this in mind, steel shipments are estimated to rise from 1983's 67 million tons to about 77 million tons in 1984.

Raw steel capacity at the start of 1983 was 151.2 million tons, with a shipping capacity of well over 100 million tons. With a possible shortage of coke beyond 80 million tons, there are indications of more trouble ahead for the U.S. steel makers.

BY-COUNTRY ANALYSIS

JAPAN

The steel industry in Japan is seeing some signs of better days ahead but, nevertheless, the general outlook for the industry remains bleak. They just cannot regain the profitable 100-million ton annual level of crude steel production that they enjoyed in the past. For the foreseeable future, crude steel production seems to be hovering around the 96.5 million ton per year level.

Steel exports account for much of the optimism, with fiscal 1982 (April 1982-March 1983) shipments estimated at 31 million tons. China is importing 6.5 million tons of Japanese steel and the U.S. economy is recovering at a rapid pace. Export shipments to the U.S. exceeded 500,000 tons in September 1983, the first time to do so on a monthly basis since March 1982.

Faltering domestic demand, a levelling off in demand for automobiles and machinery, and increasing competition from the developing nations are hampering the future growth of Japan's steel industry.

Domestic consumption of steel in Japan has been relatively dismal. In fiscal 1982 the steelmakers received orders for 69.8 million tons of ordinary steel. Of this, 47.1 million tons was for domestic use and exports accounted for 22.8 million tons. By comparison, domestic consumption in 1973 was 64.1 million tons, then it dropped to 51.6 million tons in 1974 and to 44.8 million tons in fiscal 1977.

Falling steel prices along with the decline in demand, of course, are contributing to the profitless operations. Recent prices quoted have dipped below $400 per ton, down considerably from a recent yearly average of $466 per ton.

In order to cope with the stagnant trend of the steel industry in Japan, the steelmakers are both diversifying, to reduce their dependence upon steel, and modernizing, to improve efficiency.

In the first half of 1983, production of hot rolled products was 43.23 million tons, down 7.9 pct from the same period in 1982 and down 1.8 pct from the previous six months. Of this, hot rolled special steel products accounted for 6.44 million tons, a decrease of 12.1 pct over the previous six months.

The JISF said that, in terms of orders received from consumers of ordinary steel products, domestic demand in the first half of 1983 declined by 10.4 pct from the same period in 1982. None of the consumers placed increased orders, a confirmation of the slowdown in demand. However, imports of ordinary steel products in the first half of 1983 rose to 1.12 million tons, an increase of 17.2 pct over the same period in 1982. In particular, plates and wide strips accounted for 440,000 tons (up 15.7 pct) and 520,000 tons (up 27.2 pct) respectively, to gain a larger share of the domestic market.

Based on the Ministry of International Trade and Industry (MITI) forecasts, crude steel output in the second half of 1983 is predicted to increase for two consecutive quarters to 24.25 million tons. In terms of domestic demand by consumers, demand from construction is expected to increase as will the demand from the manufacturing industries.

South Korea

Though the iron and steel industry in South Korea is relatively new, as industries go, it is able to meet domestic demand and still export 40 pct of its output.

In 1982 its capacity was 203,000 tons per year. In 1982, it achieved 12.4 million tons per year. The driving force behind this amazing growth has been the demand for steel in South Korea which has increased at a rate over 20 pct per year since 1970.

In 1982, the nation's largest, state-run, integrated steelworks, the Pohang Iron and Steel Company (POSCO),

CRUDE STEEL PRODUCTION

UNITED STATES
Millions of Tons

*Estimate
Source: AISI

JAPAN
Millions of Tons

'80	111.4
'81	101.7
'82	99.5
'83*	95.0
'84*	96.5

*Estimate
Source: International Iron & Steel Institute

SOUTH KOREA
Millions of Tons

'80	9.3
'81	10.8
'82	12.1
'83*	12.0
'84*	12.0

*Estimate
Source: Korean Iron and Steel Federation

ranked 11th among the world's Top 50 steel makers.

The major steelmaking facilities in South Korea essentially consist of POSCO and fifteen other mills. At the end of 1981, South Korea was able to produce 8 million tons of iron, 12.4 million tons of steel and 13.1 million tons of rolled steel.

Exports, which totalled 201,000 tons in 1971, were an astounding 4.5 million tons in 1982.

The Korea Development Institute forecasts domestic demand increasing to 12.4 million tons of crude steel by 1986 and 19.1 million tons by 1991, based on a 9.4 pct annual growth rate.

Domestic demand for rolled steel products is predicted to rise to 11.6 million tons by 1986 and to 18 million tons by 1991, which is a slightly faster rate than that for crude steel. Domestic demand and forged steel products are forecast to increase to 1.3 million tons in 1986 and to 2.2 million tons in 1991.

To cover the anticipated demand, the South Korean government is planning a second integrated iron and steel mill at Kwangyang that will have a crude steel production capacity on 2.7 million tons per year.Construction is to start in 1985 and be completed in September 1988.

France

During 1984, the French government may be forced to abandon its ambitious 1982 "Plan Ancier" of raising steel production to 24 million tons per year by 1986. Crude steel output for 1983 is estimated to be only just 17 million tons compared with 18.403 million tons in 1982 and 21.245 million tons in 1981. Experts' estimates for 1984-1986 vary between 16 and 20 million tons per year.

Shipments for the first half of 1983 were averaging 1.074 million tons per month, against 1.127 million tons per month. Based on this estimate, shipments will be around 12.9 million tons in 1983 against 1982's figure of 13.526 million tons.

Special steels continue to be supported by the good performance of the automobile industry. But truck production tumbled from the 1980 figure of 61,400 units to 39,800 units in 1983. Estimate of 1984 production is 42,500 units. The fall in light commercial vehicle production is less pronounced: 319,500 units are estimated for 1983 against 1980's figure of 375,500 units. But 1984 looks less rosy for light commercials as France is likely to be the: "Weakest market in Europe for trucks and light commercials," forecasts DRI Europe consultancy group. Its production figure estimated for 1984 is 292,000 light commercial vehicles.

In forecasting steel production, the French government, at time of writing, had not abandoned its "Plan Ancier", despite 1982 state steel company losses of nearly 9 billion French Francs. Losses in 1983 will probably be about 8-9 billion Francs. These losses will have consumed the 1983 capital endowments of 6 billion Francs. A steel industry union leader says: "At this rate we will still be in loss (situation) in 1986 with an even older steel sector."

Italy

"No real changes in 1984," said Italian steelmakers. The Italian Steel Federation (ASSIDER) estimates crude steel production for 1983 at around 17.5 million tons, and adds that 1984 is: "Anyone's guess." Crude steel production could be around 17.5 million tons.

In 1980, Italian producers delivered 21.628 million tons compared with 18.317 million tons in 1982 and an estimated 16.639 million tons in 1983. The latter is based on a monthly output average of 1.386 million tons for the first five months of 1983.

Average monthly output in 1982 was 1.526 million tons. Special steels declined steadily from an average monthly output of 310,000 tons in 1980 to 270,000 tons in 1982 and an estimated 232,000 tons in 1983, (based on figures for the first five months of 1983).

Italy was hit hard by the stainless steel recession during 1982. Compared with an average EEC decline of 12 pct, Italy's stainless steel production slumped by 24 pct in 1982. The January-June 1983 period saw stainless steel production down 19 pct to 88,000 tons compared with 108,667 tons in the same 1982 period.

Surprisingly, exports showed a 5 pct increase to 30,976 tons when compared with the same six-month period's performance of 29,481 tons in 1982.

Tube and flat products are expected to decline in 1984. Deliveries of tube are estimated at 1 million tons in 1983.

Both state-owned and privately-owned sectors were hurt by the recession. One state-owned plant spokesman said: "Our biggest plant is hit by the high cost of the U.S. dollar, low market prices and our own low productivity (estimated at 6-7 man-hr/ton steel compared with an EEC average of 4.5). We expect demand to stagnate during the next three years."

"What we need are some national investment projects to generate steel demand, particularly to modernize power generation," commented many producers. There is such a project — "Piano Energetica Nazionale" N -approved by the Italian Parliament in principle. It would involve Lire 93,000 billion investment of which Lire 15,000 billion would involve new power station construction.

Crude Steel Production—Millions of Tons

	Italy	Great Britain	Spain
1980	XX	11.3	12.6
1981	24.7	15.3	12.9
1982	24.0	13.7	13.1
*1983	17.5	14.0	12.8
*1984	17.0	14.3	11.0

*Estimates—first 9-10 months of 1984

Great Britain

After undergoing massive surgery in the state-owned privately-owned sectors, the British steel industry looks like it might match 1983's performance during 1984.

Shipments are anticipated to exceed 12 million tons during 1983 and might even improve by 2-5 pct during 1984. Crude steel production may exceed 14 million tons during 1983.

Commenting on 1984, the state sector spokesman said, "We are exceedingly wary of looking more than a few months ahead. Recovery, is tenuous and there is no sign yet of any sustained increase in demand."

Special steels, as well as castings, are on the critical list. Special steels, primarily from EEC members and other Europeans, pushed up British imports of high speed steel, tool steel and stainless steel bars from 1970's figure of 6,400 tons to around 30,000 tons in 1982.

British producers' deliveries declined, during the same period, from 69,000 to under 20,000 tons. For example, in 1982, imports of high speed steel bar accounted for 74 pct of the British market.

It comes as no surprise that the remaining private special steels producers are lobbying the EEC Commission for production quotas on special steels to be applied under Article 58.

The latter half of 1983 saw more rationalization of seamless tube production and the further merging of state and private interests. The welded tube operation is also being rationalized.

A brighter outlook can be found in the rod, wire and coated sheet sectors. One producer of wire and cold-rolled strip says: "We are attacking imports by improving our own efficiency. We expect to be in profit in 1983, and the momentum will continue."

Spain and Portugal

Until 1983, Spain and Portugal had been increasing steel output. The European steel crisis halted this meteoric rise. Spanish crude steel output in 1982 was over 13 million tons, compared with just 5 million tons in 1969. The Portuguese steel industry will probably return to its 1981 output level of around 650,000 tons per year in 1984 after a slip to 524,000 tons per year during 1983.

The bright spots in the Spanish steel industry include a new special steels export market—spring steel—to China. In the first eight months of 1983, nearly one million tons of round bars were exported to North Africa, the Middle East and the U.S.S.R. Total for 1983 should top 1.4 million tons, says a producer. Spain's share of the West German rebar market could expand in 1984, he said. "We estimate West Germany's consumption of our products could rise to 1.74 million tons in 1983 and more in 1984, against 1.2 million tons in 1982."

Ensidesa estimates its 30 pct export is unhealthy and plans to reduce this by 15-20 pct by 1987.

Portugal is regarded by some as the "Developing country in Europe." It operates one steel plant producing, currently, some 600,000 tons of long products, including 152,000 tons of flat products per year. Production has steadily risen from 519,000 tons of long products in 1979. The production of flat products, meanwhile, has dropped.

Apparently, the development of machine tools and support industries in Portugal is not rapid enough for industry's needs, says an industry spokesman. Portugal has a firm manufacturing base in electrical machines, turbines, textile machinery, iron and aluminum foundries.

Comecon

The six Comecon countries produced about 56.33 million tons of crude steel in 1982. Estimates for 1983 vary between 57-58 million tons. But these figures are below 1979's output of 60.357 million tons.

The drop in production is largely explained by the Polish crisis. Polish steel production dropped from a high of 19.485 million tons in 1981 to 14.795 million tons in 1982. No estimate is available for 1983, except it should have improved.

During this five-year period, steel production rose in Czechoslovakia, the German Democratic Republic (GDR) and Bulgaria, and stabilized in Romania. Some expansion of capacity is planned, especially in Romania, Bulgaria and the GDR.

A realistic prediction, says one country, is an increase of around 11 million tons by 1985. Another says that surplus capacity won't be created as the total USSR-plus-Comecon steel consumption is anticipated to rise to 220 million tons by 1985, compared with 210 million tons in 1980. The equivalent crude steel production in 1980 for the USSR-plus-Comecon block was 209.2 million tons and is anticipated to be 220 million tons by 1985.

The largest Comecon steel producer is currently Czechoslovakia, which overtook Poland in 1982. Crude steel output from Czechoslovakia was then 15.032 million tons compared with 14.795 million tons from Poland. Czech steel production averaged 1.252 million tons per month in 1982. During the first quarter of 1983, 3.863 million tons were produced, averaging 1.288 million tons per month. From this, an estimate for Czech steel production in 1983 is 15.45 million tons. No comparable figures are available from Polish sources.

Crude Steel Production—Millions of Tons

Czechoslovakia	Poland	Hungary	
14.9	19.4	3.7	1980
15.2	15.7	3.6	1981
15.0	14.7	3.7	1982
15.4	15.5	3.8	1983*
15.7	16.5	3.9	1984*

*Estimates—first 9-10 months of 1984

U.S.S.R.

Steel production in the USSR slid marginally from its 1979 high of 149.1 million tons to 147.15 million tons in 1982. But an estimate for 1983 indicates production will be back at the 1979 level at the end of 1983.

Based on the Soviet steel industry's performance for the first six months of 1983, output by June was 74.482 million tons. But relatively little is exported from the USSR. Estimates by the International Iron & Steel Institute (IISI) for finished rolled products in 1982 put the figure at around 5.65 million tons.

If one takes 1982's crude steel output, and an estimate for 1983's output, the Soviet steel industry appears to be behind in meeting its commitments for the current 1980-85 Five Year Plan. The Plan called for the output of finished rolled steel to rise from its 1980 figure of 103 million tons to 117-120 million tons in 1985—an increase of 14-17 pct. However, the Soviets are striving to improve yields in the steel plants and raise product quality.

Quality and efficiency problems stem from the steel processing plants, where over 50 pct of Soviet steel is produced by the open-hearth process. In the main, these plants cannot be converted to the conventional top-blown oxygen convertors without the costly rebuilding of melting shop structures. Undergoing trials is a compact bottom-blown oxygen/fuel convertor for producing a wide range of alloy steels, including electrical steels. Also underway is a program for introducing more continuous casting.

In rolling mill development, the USSR aims to reduce its imports of line pipe from the West. For example, in 1982, line pipe imports increased by 38 pct over 1981 to 2.2 million roubles ($2.8 million), principally from Western Europe and Japan. The Zhdanov plate mill came on-stream in July 1983. It has a capacity of 250,000 tons per year of plate for use in fabricating large diameter pipe.

Scandinavia

Scandinavian steel producers rely heavily on exports to the EEC countries and the U.S.

For Scandinavia, 1984 could be a year of concern as the trend towards more import controls increases.

Swedish crude steel production rose steadily, after the low figure of 3.7 million tons output in 1981. Shipments were higher than is normal for Western Europe, with special steels accounting for 60 pct of Swedish output. The total value of finished steels delivered in 1982 was 15 billion Swedish Crowns.

Since 1981, Sweden has been a net exporter of steels. Of the 1981 finished steel shipments tonnage of 3.09 million tons, 1.92 million tons were exported. Imported steel amounted to 1.76 million tons. The shipments of finished steels in 1982 were 8 pct up at 3.06 million tons when compared with 1981. Shipments in 1983 may reach 3.4 million tons.

Trends during the first three-quarters of 1983 showed a 0.2 pct rise in special and stainless steels, while tubes declined by 15 pct. Stainless steel tonnage produced was up by 2.6 pct in the same period, while other alloys were down. In 1982, stainless steel accounted for some 39 pct of the 520,000 tons of special steel exports of hot and cold rolled plate, sheets and tubes.
strength steels."

Sweden's leading steel customers during 1982 were West Germany, U.S. and Britain.

Finland is the second largest Scandinavian steel producer. Its crude steel output stabilized at the 2.4 to 2.5 million ton level during the past five years. Output is expected to remain unchanged during 1984. The Finnish government says that slight growth is expected in the metals and engineering sectors during 1984. The shrinkage of exports to the Comecon countries and the USSR will be balanced by the recovery of exports to the Western countries. Shipments of rolled steel products remained at the 1.8 million ton level during 1979-1982 and are estimated to be 1.9 million tons for 1983 and 1984.

West Germany

For 1983, the steel production industry estimates a 2 pct decline of production tonnage in Europe. According to a statement by the Deustscher Stahbau-Verband in Cologne, 1984 will most probably be the period of stagnation.

During the annual meeting of the European Convention for Steel Construction (EKS) in mid-September 1983 in Munich, W. Germany, Dipl.-Ing. Hans-Jurgen Dankert, President of the EKS, characterized the situation of this industry as being harsh.

The years 1979 to 1980 showed a steady 5 pct annual increase in steel production business. As of 1981 (-2.4 pct) production figures decreased and fell by another 5 pct in 1982. Another, but less severe decline is expected to be recorded for 1983.

The earliest point of recovery might be in the course of 1984 as this industry hopes to be dragged along with the general revitalization of the economy and may thus enjoy positive growth rates again.

The EKS President indicated reasons for optimism: Increasing raw material shortage will continue to favor constructional materials, mainly steel which can be recycled, and the constantly changing market conditions that require tremendous adaptation processes in many European industrial branches.

Crude Steel Production

		Sweden	Finland	Norway	Denmark		Austria	
'80		4.237	2.5	.86	—		3.1	2.2
'81		3.770	2.4	.84	.6		3.0	2.4
'82		3.900	2.4	.76	.5		2.6	2.2
Est.) '83		4.100	2.4	.77	.4		n.n	n.n
Est.) '84		4.300	2.4	.78	.4		n.n.	n.n

Benelux

Traditionally Europe's fourth largest steel-producing area following West Germany, Italy, and France, the Benelux countries' crude steel production fell 20 pct from 21.54 million tons in 1981 to an estimated 17.38 million tons in 1983.

The Benelux countries, Belgium, the Netherlands and Luxembourg, only consume about 20 pct of their production. Belgium normally produces about 12 million tons of crude steel per year, and is Europe's fifth largest producer after West Germany, Italy, France and Britain.

The Netherlands' production of crude steel was an estimated 4.3 million tons in 1983 (based on an average of 365,000 tons/month over the first nine months of 1983) compared with 4.354 million tons in 1982. Helping to justify this output was a well-maintained level of industrial exports and a flourishing, if small-scale, automotive industry.

Dutch steel deliveries of carbon steels ran at 175,000 tons per week average during the first five months of 1983—indicating an annual figure of 2.1 million compared with 2.246 in 1982.

Belgium's crude steel production fell from 12.2 million tons in 1981 to 9.89 million in 1982, but appears it may stay at around 9.8 million tons for 1983.

Luxembourg's crude steel output decline is less marked: from 3.79 million tons in 1981, it fell to 3.5 million tons in 1982 and may hold around 3.1 million in 1983. No producer will commit itself to any accurate forecast for 1984. Such a forecast depends on the outcome of various negotiations, coupled with the EEC Commission's demands regarding capacity and production cuts.

Eastern Europe

Eastern Europe—Yugoslavia, Greece and Turkey—has steadily increased crude steel output from 6.74 million tons in 1979 to an estimated 8.55 million tons in 1983.

Yugoslavia's steel output is estimated to just pass the 4.1 million tons level in 1983, compared with 3.53 million tons in 1979. Even so, domestic consumption is at the 6 million tons level.

Under build is a $625 million cold rolling mill complex at Smederevo near Belgrade. This plant reflects the general Yugoslav trend. The recession has hit domestic demand for hot-rolled products, such as reinforcing bars, but more cold-rolled products are in demand for the automotive and domestic appliance industries.

The level of industrial production in Yugoslavia only rose 0.6 pct in the first ten months of 1983. Stagnation existed until July, when new Western government credits financed imports of raw materials and components. Some $400 million of credits remain to be spent in 1984. Consequently, industrial production is picking up.

Turkish crude steel output has also risen steadily from 2.39 million tons in 1979 to an estimated 3.468 million tons for 1983.

In recent years, Turkey has been forced to export steel, with Iran and Iraq, Africa and Malaysia its largest customers. One company says "We were supplying 40-50,000 tons of billets to Lebanon, Jordan and the Far East. Iran took 600,000 tons of steel products in early 1983." He continued: "Our biggest problem is transportation shortages."

Greece has steadily increased its crude steel output from 813,000 tons in 1979 to an estimated 920,000 tons in 1983. More industry expansion is planned there too.

Latin America

Latin American steel is worried. The region is seriously strangled by the burden of external debt, the restrictions required by domestic concerns, plus the generalized slump in public and private demand. It is fearful that its export markets will be shut off, the result of protectionist barriers.

The Instituto Latinoamericano del Fierro y el Acero—ILAFA—surveyed its members and projected that the member nations, and companies, would produce over 28 million tons of crude steel in 1983.

Surprisingly, in view of the above expressed concerns, steel production in the Latin American countries amounted to 20.8 million tons in the first nine months of 1983. This represents a 2.7 pct growth relative to the same period in 1982, which is quite good when compared with the losses registered by the EEC and Japan.

ILAFA points out that a major share of the production increase is attributed to exports outside the region. Exports will exceed 5 million tons, a new record.

Protectionism abroad looms as the major unknown in future marketing plans. Latin America's steel industry has demonstrated it has real comparative advantages and efficiency to produce steel.

With the coming on-stream of Brazil's Tubarao steel complex in December 1983, with a projection production of 1.5 million tons of steel in 1984, and an improving world economy, it is probable that the Latin American steel industry will produce 30 million tons of steel in 1984.

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Crude Steel Production—Millions of Tons

Belgium	Luxembourg	Latin America	
12.3	4.6	29.0	1980
12.2	3.7	27.3	1981
9.8	3.5	27.1	1982
9.8	3.1	28.2	1983*
N/A	N/A	30.0	1984*

*Estimates—first 9-10 months of 1984
Source: ILafa & IISI

said ingot prices could rise anywhere from 5¢ to 10¢ this year, with Comex at 84¢, the London Metal Exchange price at 80¢, and the free market duty-paid price at 85¢ a lb by the end of the first quarter. LME ingot is 99.5 pct, unalloyed ingot while Comex ingot is 99.7 pct metal. The rest of the gap with Comex reflects import duties, ocean and inland freight.

Reynolds Metals Co. recently estimated that domestic producers shipped more than 500,000 tons from inventory last year, during which period consumers still ran on thin stocks despite strong increases in real consumption. The company said domestic industry shipments in 1984 could show a 9.5 pct gain to a record 7.5 million tons, with about 38 pct of the anticipated gain coming from the transportation sector alone. Last year, transportation applications accounted for about 23 pct of the total gain. When car production is up by 1.1 million units-plus and the average car uses 135 lbs of aluminum, the effect is quite apparent.

Exchange inventories holding down copper prices

Copper prices entered 1984 in about the same shape they left 1983—wobbling up and down over a narrow range and still waiting for the U.S. business recovery to visit copper's neighborhood.

Phelps Dodge Corp., Inco Ltd. and Noranda Sales Corp. were experimenting with various pricing formulas based on daily Comex quotations, but the Comex itself—and the London Metal Exchange as well—remained more influenced by heavy warehouse stocks than by U.S. business levels and growing expectations that European demand is due for a pickup soon. Comex and LME warehouse stocks at the start of the year were roughly 65 pct higher than they were a year earlier.

Warren Felson, senior vice president of Metal Traders, Inc., recently predicted that copper prices will move upward this year, "but not to levels that will get copper producers too excited." He noted that copper prices actually slipped 5 pct during the first year of the U.S. business recovery and added that the extent of the 1984 price rise depends on business growth in Europe and the Far East, the trend in capital goods markets and Chinese requirements.

Mr. Felson will be one of a number of copper industry figures examining various changes in copper pricing strategies at the American Copper Council's March 4-9 "Copper College" sessions in Mexico City. George P. Tateosian, chairman of the 1984 session and a vice president of Metal Traders, said the sessions will take a role-playing approach based on the Harvard Business School case-study method.

Phelps Dodge limited its experiment with Comex-based pricing to continuous cast copper rod which, beginning Jan. 2, is being offered at 7¢ a lb over the Comex cathode price for the month of shipment instead of a 4.85¢ a lb premium on the producer price for cathode. The company also retained the option of renewing or adjusting its new method at midyear. Coincident with the change was a decision by the company to withdraw rod tolling services at its continuous cast rod mills in Norwich, Conn. and El Paso, Texas. The company said the move had nothing to do with merchant copper, but some observers said the company had grown concerned over the rise in tolling at its mills and wanted to see its customers run more Phelps Dodge metal through instead.

Shipments of magnesium die castings lag zinc and aluminum

It's easy to see why Amax Magnesium didn't raise its price for die casting grades of magnesium when the primary magnesium price was increased by 5¢ to $1.43 lb by the Amax Inc. unit and by Dow Magnesium.

Magnesium die casting grades have lost ground to zinc and aluminum.

Shipments of magnesium die castings last year were running about 22 pct under the 1982 rate and about half the volume shipped in 1981. Shipments of aluminum and zinc die castings, meanwhile, were up smartly last year.

Joseph Viland, vice president-sales for Amax Magnesium, said the company was holding its prices for AZ91B and AZ91HP die casting grades at $1.25 a lb because it felt a price hike would discourage efforts to win automotive applications. Dow Magnesium raised its price for AZ91B by 5¢ to $1.28 a lb.

George F. Ditshazy, purchasing manager for General Motors Corp.'s casting division at Saginaw, Mich., told a recent meeting of the National Association of Recycling Industries that the major deterrent to wider magnesium use by GM is its cost relative to other lightweight materials and processing difficulties. He said GM currently uses about 600,000 lbs of magnesium a year and this is expected to increase only as a function of increased car production.

Another concern, he said, was "the limited number of sources who can supply magnesium competitively in the U.S.—if magnesium can't be supplied competitively, it will be limited to its optimum application.

Scrap price corrections

Scrap prices in Hamilton, Ont., did not rise in December 1983. However, *Iron Age* is revising broker buying prices to align them more closely with mill buying prices. The following are the corrected prices for Hamilton and are effective Dec. 12, 19, and 27, 1983.

No. 1 heavy melt—$72
No. 2 heavy melt, cut 2 ft—$67
No. 1 dlr. bundles—$77
No. 2 dlr. bundles—$43
Mixed steel scrap—$49
Busheling, new fact. prep.—$75
Busheling, new fact. unprep.—$65
Mach. shop turn.—$35
Short steel turn.—$38
Mixed borings and turnings—$25
Cast scrap—$63

PRICE & PRODUCTION DATA

(Effective January 9, 1984)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
North East Coast	191	145	194	123
Buffalo	9	7	9	31
Pittsburgh	222	172	227	127
Youngstown	103	76	89	56
Cleveland	124	116	141	48
Detroit	136	101	136	108
Chicago	430	331	516	373
Cincinnati	92	66	90	62
St. Louis	53	39	73	55
Southern	161	132	159	86
Western	76	66	76	67
U.S. Production	1,597	1,251	1,710	1,136

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports. Rail transportation, handling and unloading may be charged to the account of the buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural).....gross-ton 80.50-86.9*
Old range, non-bessemer .....gross-ton $32.78
Mesabi, regular-unscreened .....gross-ton $32.53
Mesabi, non-bessemer..... gross-ton $30.03-31.53**

*80.50¢—Pickands Mather as of 1/27/81.
86.9¢—U. S. Steel as of 3/15/82. Cleveland-Cliffs as of 2/26/82, Oglebay Norton as of 3/25/82, and Hanna Mining as of 2/26/82.
**Effective 8/1/83.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective January 9, 1984)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1984	To Date 1983
Net tons, in thousands	1,597	1,251	1,597	1,102
Capability Utilization Rate	61.4	43.3	61.4	38.0

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 9/1/83)	26.822	26.822	26.822	25.297
Pig Iron** (Net ton—2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton—2240 lbs.)	$ 96.50	$ 90.50	$ 86.17	$ 60.17
No. 2 bundles	$ 59.50	$ 58.50	$ 54.50	$ 41.83

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh .	$ 96.50	$ 96.50	$ 90.50	$ 62.50
No. 1 steel, Philadelphia	89.50	89.50	83.50	56.50
No. 1 steel, Chicago.....	103.50	85.50	84.50	61.50
No. 1 bundles, Detroit..	95.50	95.50	86.50	48.50
Low Phos., Youngstown	94.50	88.50	88.50	64.50
No. 1 mach'y cast., Pgh	79.50	79.50	79.50	61.50
No. 1 mach'y cast., Phila	100.50	97.50	97.50	98.50
No. 1 mach'y cast., Chi..	115.50	115.50	111.50	104.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective January 9, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum	81.00	76.00-81.00	9/27/83
Copper (C)	66.50-67.50	67.50-69.00	1/9/84
Lead	26.00-27.00	24.00-27.00	12/30/83
Magnesium Ingot	143.00	138.00	1/3/84
Nickel	329.00	350.00	11/25/81
Titanium Sponge	555.00-585.00	555.00	4/29/82
Zinc	49.00-51.00	49.00	1/5/84

ALUMINUM: 99.5%. COPPER (C) – cathode. LEAD: common grade. MAGNESIUM: 99.8% pig, delivered. NICKEL: electro., Port Colborne, Canada. ZINC: high grade.

Antimony, American Laredo, Texas . $2.00
Beryllium-aluminum 5% Be, per lb. contained Be.....$215.00
Beryllium-copper, per lb. cont. Be $130.00
Beryllium 97% powder 200.....$178.00
Bismuth, ton lots .....$1.65-$1.80
Cadmium, ton lots $1.25
Calcium, ton lots, crown $3.05
Chromium, 99.8% $3.75
Cobalt, 99%, cathode.....$12.50
Gold per troy oz. $365.25
Indium, dollars per troy oz.....$3.20
Iridium, dollars per troy oz.....$600
Magnesium sticks, 10,000 lbs. $1.91
Mercury, per 76-lb. f.o.b. N.Y. ..$325-$340
Molybdenum, lb. tech. moly oxides, 20 lb. MO can $5.85
Nickel oxide sinter at U.S. points of entry $3.12
Palladium, per troy oz. $140
Platinum, per troy oz.....$475
Rhodium, per troy oz. $600.00
Silver ingots, per troy oz.....$8.24
Vanadium $6.00
Zirconium sponge.....$12.00-$17.00
(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb, EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo.)

Jan. 2—Holiday
Jan. 3—566.24
Jan. 4—564.86
Jan. 5—564.46
Jan. 6—564.46

Scrap Prices
Brass Mill Scrap

(Cents per lb; over 20,000 lbs. add 1¢ per lb)

	Solids	Turning
Copper	63½	61
Yellow brass	57¾	57½
Red brass	59½	59¼
Comm. bronze	60	59¾
Mang. bronze	59½	58¼
Free cutting rod ends	57	56

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	60
No. 2 copper wire	50
Light copper	42

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	56
No. 2 copper wire	46
Light copper	38
No. 1 composition	51
No. 1 comp. turnings	49
Hvy. yellow brass solids	31
Hvy. yellow brass turnings	27
Radiators	41

Aluminum

New mixed clips	48	—49
Old sheet	48	—49
Old cast	48	—49
Clean dry borings	48	—49

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	40	—41
Mixed L.C. clips	35	—36
Old sheets and cast	33	—34
Borings and turnings	24	—25
Duraluminum clippings	28	—29

Copper and Brass

No. 1 copper wire	50	—51
No. 2 copper wire	42	—43
Light copper	38	—39
Radiators	34	—35
No. 1 composition	43	—44
No. 1 composition turn'gs	41	—42
Cocks and faucets	29	—30
Clean heavy yellow brass	26	—27
Brass Pipe	28	—29
New soft brass clippings	42	—43

Lead

Heavy soft lead	8	— 9
Whole batteries	3	— 4
Type metal	15	—16
Electrotype	13	—14

Nickel

Nickel solids	110	—120
Nickel rod ends	110	—120
Nickel sheets, clips	110	—120
Nickel turnings	50	— 60

Zinc

New zinc clippings	15	— 16
Old diecast zinc	10	— 11

EFFECTIVE JAN. 9, 1984

(Effective January 9, 1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 96.00 to	$ 97.00
No. 2 hvy. melting	86.00 to	87.00
No. 1 dealer bundles	119.00 to	120.00
No. 1 factory bundles (auto)	122.00 to	123.00
No. 2 bundles	59.00 to	60.00
No. 1 busheling	119.00 to	120.00
Machine shop turn.	16.00 to	17.00
Shoveling turnings	50.00 to	51.00
Cast iron borings	49.00 to	50.00
Low phos. punchings plate	119.00 to	120.00
Heavy turnings	86.00 to	87.00
No. 1 RR hvy. melting	116.00 to	117.00
Rails 2 ft. and under	121.00 to	122.00
Scrap rails, random lgth.	107.00 to	108.00
RR specialties	115.00 to	116.00
No. 1 machinery cast	79.00 to	80.00
Cupola cast	72.00 to	73.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	580.00 to	590.00
18-8 turnings	480.00 to	490.00

Chicago

No. 1 hvy. melting	$103.00 to	$104.00
No. 2 hvy. melting	95.00 to	96.00
No. 1 dealer bundles	114.00 to	115.00
No. 1 factory bundles (auto)	114.00 to	115.00
No. 2 dealer bundles	59.00 to	60.00
No. 1 busheling	113.00 to	114.00
Shredder scrap	106.00 to	106.00
Machine shop turn.	49.00 to	50.00
Mixed bor. and turn.	50.00 to	51.00
Shoveling turnings	60.00 to	61.00
Cast iron borings	64.00 to	65.00
Low phos. forge crop	122.00 to	123.00
Low phos. punchings plate ¼ in. and heavier	132.00 to	133.00
Low phos. 2 ft. and under	127.00 to	128.00
No. 1 RR hvy. melting	109.00 to	110.00
Scrap rails, random lgth.	93.00 to	94.00
Reroller rails	108.00 to	109.00
Rails, 2 ft. and under	120.00 to	121.00
RR couplers and knuckles	108.00 to	109.00
RR car axles	124.00 to	125.00
No. 1 machinery cast	115.00 to	116.00
Cupola cast	106.00 to	107.00
Stove plate	106.00 to	107.00
Steel car wheels	117.00 to	118.00
Stainless		
18-8 bundles and solids	560.00 to	570.00
18-8 turnings	460.00 to	470.00
430 bundles and solids	135.00 to	140.00
430 turnings	100.00 to	105.00

Philadelphia

No. 1 hvy. melting	$ 88.00 to	$ 91.00
No. 2 hvy. melting	75.00 to	78.00
No. 1 dealer bundles	102.00 to	105.00
No. 2 dealer bundles	58.00 to	61.00
No. 1 busheling	102.00 to	105.00
Shredder scrap	100.00 to	103.00
Machine shop turn.	29.00 to	32.00
Mixed bor. and turn.	29.00 to	32.00
Shoveling turnings	47.00 to	50.00
Low phos. 5 ft. and under	102.00 to	105.00
Low phos. 2 ft. punchings	117.00 to	120.00
Electric furnace bundles	117.00 to	120.00
RR specialties	102.00 to	105.00
Rails, 2 ft. and under	117.00 to	120.00
Cupola cast	70.00 to	73.00
Heavy breakable cast	55.00 to	57.00
No. 1 machinery cast	99.00 to	102.00

Detroit

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 71.00 to	$ 72.00
No. 2 hvy. melting	68.00 to	69.00
No. 1 dealer bundles	95.00 to	96.00
No. 2 bundles	47.00 to	48.00
No. 1 busheling	94.00 to	95.00
Drop forge flashings	68.00 to	69.00
Machine shop turn.	35.00 to	36.00
Mixed borings and turn.	22.00 to	23.00
Shoveling turnings	35.00 to	36.00
Cast iron borings	44.00 to	45.00
Heavy breakable cast	35.00 to	36.00
Mixed cupola cast	51.00 to	52.00
Automobile cast	74.00 to	75.00
Stainless		
18-8 bundles and solids	480.00 to	490.00
18-8 turnings	370.00 to	380.00
430 bundles and solids	130.00 to	140.00

Youngstown

No. 1 hvy. melting	$ 86.00 to	$ 89.00
No. 2 hvy. melting	69.00 to	72.00
No. 1 dealer bundles	98.00 to	101.00
No. 2 dealer bundles	37.00 to	40.00
Machine shop turn.	14.00 to	17.00
Shoveling turnings	19.00 to	22.00
Low phos. plate	93.00 to	96.00
Electric furnace bundles	88.00 to	91.00
Galvanized bundles	82.00 to	85.00

Cleveland

No. 1 hvy. melting	$ 82.00 to	$ 85.00
No. 2 hvy. melting	50.00 to	53.00
No. 1 dealer bundles	100.00 to	103.00
No. 1 factory bundles	103.00 to	106.00
No. 2 bundles	25.00 to	28.00
No. 1 busheling	99.00 to	102.00
Machine shop turn.	13.00 to	16.00
Mixed bor. and turn.	13.00 to	16.00
Shoveling turnings	15.00 to	18.00
Cast iron borings	18.00 to	21.00
Cut structural & plates, 2 ft. and under	115.00 to	118.00
Low phos. punchings plate	115.00 to	118.00
Drop forge flashings	62.00 to	65.00
Foundry steel, 2 ft. & under	70.00 to	75.00
No. 1 RR hvy melting	87.00 to	90.00
Rails, 2 ft. and under	117.00 to	120.00
Rails, 18 in. and under	118.00 to	121.00
Steel axle turnings	67.00 to	70.00
Railroad cast	94.00 to	97.00
No. 1 machinery cast	97.00 to	100.00
Cupola cast	63.00 to	66.00
Stove plate	48.00 to	51.00
Stainless		
18-8 bundles	375.00 to	385.00
18-8 turnings	325.00 to	335.00
430 bundles	80.00 to	85.00

Buffalo

Broker buying prices per gross ton on cars:

No. 1 hvy. melting	$ 77.00 to	$ 78.00
No. 2 hvy. melting	53.00 to	55.00
No. 1 busheling	87.00 to	88.00
No. 1 dealer bundles	88.00 to	89.00
No. 2 bundles	40.00 to	41.00
Machine shop turn.	15.00 to	16.00
Mixed bor. and turn.	13.00 to	14.00
Shoveling turnings	20.00 to	21.00
Cast iron borings	19.00 to	20.00
Low phos. plate	91.00 to	92.00
Structural and plate, 2 ft. and under	95.00 to	96.00
Rails, 2 ft. and under	97.00 to	98.00
Scrap rails, random lgth.	77.00 to	78.00
No. 1 machinery cast	71.00 to	72.00
No. 1 cupola cast	59.00 to	60.00

St. Louis

No. 1 hvy. melting	$ 82.00 to	$ 83.00
No. 2 hvy. melting	71.00 to	72.00
Foundry steel, 2 ft.	71.00 to	72.00
No. 1 dealer bundles	82.00 to	83.00
No. 2 bundles	68.00 to	69.00
Machine shop turn.	22.00 to	23.00
Shoveling turnings	29.00 to	30.00
Cast iron borings	40.00 to	41.00
No. 1 RR hvy. melting	92.00 to	93.00
Rails, random length	86.00 to	87.00
Rails, 18 in. and under	102.00 to	103.00
RR specialties	95.00 to	96.00
Cupola cast	74.00 to	75.00
Heavy breakable cast	53.00 to	54.00
Stove plate	85.00 to	86.00
Cast iron car wheels	57.00 to	58.00
Rerolling rails	102.00 to	103.00
Unstripped motor blocks	84.00 to	85.00

Birmingham

No. 1 heavy melting	$ 73.00 to	$ 74.00
No. 2 heavy melting	69.00 to	70.00
No. 1 dealer bundles	76.00 to	77.00
No. 2 bundles	55.00 to	56.00
No. 1 busheling	75.00 to	76.00
Shredder scrap	99.00 to	100.00
Machine shop. turn.	29.00 to	30.00
Shoveling turnings	37.00 to	38.00
Cast iron borings	39.00 to	40.00
Electric furnace bundles	69.00 to	70.00
Elec. furnace, 3 ft. & under	76.00 to	77.00
Structural and plate, 2 ft.	105.00 to	106.00
Structural and plate, 4 ft.	99.00 to	100.00
No. 1 RR hvy. melting	94.00 to	95.00
Scrap rails, random lgth.	88.00 to	89.00
Rails, 18 in. and under	106.00 to	107.00
Angles and splice bars	97.00 to	98.00
No. 1 cupola cast	93.00 to	94.00
Unstripped motor blocks	69.00 to	70.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 73.00 to	$ 74.00
No. 2 hvy. melting	67.00 to	68.00
No. 1 dealer bundles	86.00 to	87.00
No. 2 bundles	38.00 to	39.00
Machine shop turn.	14.00 to	15.00
Shoveling turnings	16.00 to	17.00
Cast iron borings	26.00 to	27.00
Low phos. 18 in. and under	108.00 to	109.00
Rails, random length	84.00 to	85.00
Rails, 2 ft. and under	100.00 to	101.00
No. 1 cupola cast	77.00 to	78.00
Heavy breakable cast	38.00 to	39.00
Drop broken cast	90.00 to	91.00

New York

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 46.00 to	$ 47.00
No. 2 hvy. melting	40.00 to	41.00
No. 2 dealer bundles	23.00 to	27.00
Mixed bor. and turn.	11.00 to	13.00
Machine shop turn.	6.00 to	7.00
Shoveling turnings	14.00 to	15.00
Clean cast. chem. borings	35.00 to	36.00
No. 1 machinery cast	89.00 to	90.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	500.00 to	520.00
18-8 turnings	400.00 to	420.00
430 prepared solids	90.00 to	110.00
410 solids	80.00 to	90.00

Boston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 62.00 to	$ 64.00
No. 2 hvy. melting	52.00 to	54.00
No. 1 dealer bundles	78.00 to	78.00
No. 2 bundles	40.00 to	42.00
No. 1 busheling	80.00 to	82.00
Shredder scrap	78.00 to	80.00
Machine shop turn.	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	90.00 to	95.00
Mixed cupola cast	47.00 to	49.00
Heavy breakable cast	18.00 to	20.00

San Francisco

No. 1 hvy. melting	$ 48.00 to	$ 50.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	35.00 to	36.00
No. 2 dealer bundles	17.00 to	19.00
Machine shop turn.	6.00 to	8.00
Cast iron borings	6.00 to	8.00
No. 1 cupola cast	76.00 to	78.00

Los Angeles

No. 1 hvy. melting	$ 50.00 to	$ 52.00
No. 2 hvy. melting	40.00 to	42.00
No. 1 dealer bundles	39.00 to	40.00
No. 2 dealer bundles	19.00 to	21.00
Machine shop turn.	6.00 to	8.00
Shoveling turnings	10.00 to	12.00
Cast iron borings	6.00 to	8.00
Elec. furnace, 1 ft. and under (foundry)	75.00 to	77.00
No. 1 cupola cast	75.00 to	77.00

Seattle

No. 1 hvy. melting	$ 73.00 to	$ 75.00
No. 2 hvy. melting	62.00 to	64.00
No. 2 bundles	42.00 to	44.00
No. 1 cupola cast	98.00 to	100.00
Mixed yard cast	85.00 to	87.00

Hamilton, Ont.

Brokers buying price per net ton on cars:

No. 1 heavy melting	$ 82.00
No. 2 heavy melting cut 2 ft. and under	77.00
No. 1 dealer bundles	87.00
No. 2 bundles	48.00
Mixed steel scrap	59.00
Bush. new fact. prep'd.	85.00
Bush. new fact. unprp'd.	75.00
Machine shop turn.	40.00
Short steel turn.	43.00
Mixed bor. and turn.	30.00
Cast scrap	68.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 87.00 to	$ 88.00
No. 2 hvy. melting	71.00 to	72.00
No. 2 bundles	44.00 to	45.00
Machine shop turn.	23.00 to	24.00
Crushed turnings	47.00 to	48.00
Shredder scrap	87.00 to	88.00
Cut structural plate 2 ft. and under	94.00 to	96.00
Unstripped motor blocks	62.00 to	63.00
Cupola cast	86.00 to	87.00